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System Perturbation: Conflict in the Age of Globalization

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1.   Background

Aperiodically, the international system reorders itself — normally in the aftermath of a major conflict. This reordering is accompanied by the implementation of new rule sets in an attempt to firewall states from the causes of the conflict. Policymakers have openly enquired whether the end of the Cold War and the birth of the information age requires a new firebreak and the implementation of a new set of rules. Because "great power war" has been the proximate cause of past restructuring, great power war has been the ordering the principle for international (and national) rules and institutions. Recent events (from so-called the Asian Economic Flu, to the Mexican peso crisis, to the Love Bug computer virus, to the heinous events of 11 September 2001) indicate that a new ordering principle is required (one in which great power war is but one possible outcome).

In helping America's Defense Department think through the future of international security, we have proposed that "system perturbation" be examined as the new ordering principle. The best way to describe this ordering principle is to examine what happened on and after 11 September. The attacks of 9/11 were not acts perpetrated by a nation-state using traditional methods of warfare. Yet their effect was momentous, like a giant stone dropped in a calm pond. The initial vertical shock was spectacular, but the resulting horizontal ripples had longer-lasting effects that went well beyond the security field. This paper examines the underlying precepts of system perturbation and potential triggers that could lead to great power conflict. It argues that these triggers will likely foment in places where globalization is actively resisted and by individuals who will use information age tools to oppose globalization's spread and content. We argue that great powers are less likely to confront one another than they are to cooperate to eliminate super-empowered individuals (or groups) trying to disrupt the global economy.

2.   Firewalling the Past

The military is constantly accused of planning and training for the last war instead of the next one. Military leaders deny it, of course, but the truth is that planning for the unknown — and getting it right — is extremely difficult. The military is an easy target for critics, yet, if it has had a checkered past when it comes to planning for the next great upheaval, others in the national security community (including politicians, diplomats, and economists) have done even worse. The best they have been able to do is firewall the future from the past. Political scientists trace the roots of the nation-state to the 1648 Treaty of Westphalia. That treaty, in effect, was one of the first modern firewalls as it attempted to isolate religion from secular politics. Leaders believed that religious competition had fostered needless unrest and suffering. The treaty came after 30-years of bloodshed, during which one-third of Europe's population died either in battle or from plague, malnutrition, or similar war-related causes. Who wouldn't want to firewall themselves from such a catastrophe? As noted above, that kind of firewalling has accompanied almost all major conflicts.

Skip ahead some 150 years to the beginning of the 19th century. The Congress of Vienna and the Concert of Europe were established following the Napoleonic Wars. The Hague Conventions were drafted after the unification of Germany. Something else was happening as well. Although the term was yet to be invented, globalization was cracking its shell. This first period of globalization began with European colonization, but really hit its stride during the industrial revolution with its huge appetite for raw material. It was marked by the massive movement of resources from colonies to the motherland and distribution of finished goods from the motherland to the world. It was accompanied by the free movement of labor, otherwise known as emigration. It was possible to travel the length of Europe without a passport. Huge corporations dominated the landscape and helped form foreign policy. The period was also marked by economic nationalism, as domestic manufacturers and growers were confronted, for the first time, with competitive goods from distant lands. As the 19th century ended, Europe faced an arms race and an ambitious German state. To counter Germany's rise, states entered into secret combinations of alliances in order to maintain a balance of power which led, inevitably, to the First World War.

The consequences of that war are well known. It cost nearly $350 billion in 1918 dollars, resulted in nearly 12 million war dead — over 20 percent of Oxford University men who served were killed — and over 20

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million people were wounded.[1] The aftermath of war was even worse when more people died from epidemics than were killed during the war. The Bolshevik revolution gained a purchase it would never have achieved without these horrendous conditions. The call for new rules and a break with the past was clarion. Unfortunately, policymakers were too myopic in their vision when they established those rules. They failed to look much beyond the security dimensions of the problem and their short-sightedness, especially to economic issues, meant that the instruments and institutions of peace (such as Treaty of Versaille and League of Nations) either exacerbated the problem or couldn't deal with them. The international monetary system in the mid-war years rested precariously on loans (principally from the United States) instead of on a system of extensive gold reserves and securities. The result was repression, depression, and the Second World War — the conclusion of which also marked the end of Globalization I. Once again the call for new rules and a break with the past sounded forth.

This time policymakers (especially from the United States and the United Kingdom) took a much broader view of the international system and they tried to firewall the present from the past by replacing the League with the United Nations (UN) and establishing an economic system, devised at Bretton Woods, that would help achieve economic stability and social well-being in the pursuit of international peace and security. One of the negative experiences that spurred economic action was the instability of exchange rates prior to the war. The International Monetary Fund (IMF) was created as the centerpiece of a new international monetary system that was designed to guarantee an orderly and reliable exchange of currencies in order to promote the international flow of goods and capital.[2] Its sister institution, the International (World) Bank for Reconstruction and Development, was established to provide financing and guarantees for reconstruction following the war.[3] Unfortunately, a large part of the global economy (the communist bloc) isolated itself from the economic system and stalemated the United Nations. Those nations that were positively influenced by the new rule sets, underwent an enormous transformation and they flourished. Those who fared worst under this system lived in the seams between the east and west. They literally fell between the cracks. Nevertheless, the firewall, with its new rule sets, basically worked and marked the beginning of Globalization II.

3.   A Taste of the Future

Our first exposure to the possibility that the world was again on the verge of changing its rule sets came when we were asked to think about the security consequences of Y2K if things went badly. Since we were not computer experts, nor air traffic control experts, nor electrical grid experts, nor electronic financial transaction experts, we realized we would have to take a systemic approach to the question. We did this by examining several alternative ways that the scenario could play out and then populated a scenario dynamics grid that looked at lingering effects through four lenses (business, government, networks, and society) over six periods: 1) the initial mania created by the possibility of a serious problem, 2) the countdown to the actual event, 3) the onset of the event, 4) the unfolding of the event's aftermath, 4) the event's peak, and, finally, 5) the event's exit. We asked experts to help fill in the types of events we would expect to see in each of the boxes created in this grid. Some of the eventualities we contemplated were:

- Catastrophic terrorism targeting Americans in highly symbolic venues (e.g., New York City, Washington, DC, Rome, and/or Jerusalem).
- Opportunists taking advantage of chaos to sow additional fear through acts of mischief (likely millenarian).
- A major stock market disabled for days, then market quakes around world, followed by global recession.
- A significant rise in people buying guns and private security.
- "Islanding" — wherein firms refused customers certain basic services—especially insurance.
- Firms stockpiling industrial inputs due to anticipated delays at critical network nodes — e.g., borders and ports.
- Leaders telling the public to stay calm (no scapegoating) but accepting security measures to keep peace just in case domestic tranquility deteriorates (many feared loss of liberties).
- Preventable wars, as leaders employed desperate measures to show people they were in control.
- US law enforcement and national security agencies being called into action simultaneously all over the country/world to deal with fantastic scenarios (lots of covert/special operations) with most interventions targeted for backward states.

In the darkest scenarios, people started acting differently and living by new rules in order to protect themselves from the more vicious effects of global turmoil. It didn't happen, of course, but we were struck by enormity of the possibilities and never once did the specter of great power warfare rear its head. The

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possibilities were so intriguing that we teamed with the powerful, but then little known, brokerage firm of Canter-Fitzgerald, and began a series of workshops under the collective title of **NewRuleSets.Project**. We had conducted three extremely interesting meetings (out of a proposed series of five) before the World Trade Center and Canter-Fitzgerald's headquarters were lost. We were convinced new rule sets were emerging, but saw them evolving naturally over time as opposed to being drafted at a Dumbarton Oaks type of international forum. Enough of the series was completed before 11 September that we, along with Hank Gaffney, a colleague at the Center for Naval Analyses in Alexandria, Virginia, had already begun thinking about a new organizing principle for national and international security that looked different from the great power war model. The signs were everywhere. More and more individuals were calling for a break with the past as a result of sea changes in the global economic and security environments. Meetings of organizations that represent the current rule sets (such as the IMF) were plagued by increasingly angry protestors, who used the tools and freedoms of globalization to work against its spread.

These protestors remain a symptom of a deeper trend that puzzles policymakers, who, like their counterparts over the past 350 years, have used interstate war as the organizing principle for their institutions and plans. The depth of this underlying reality was driven home on 11 September. The most oft-heard statement following those attacks was, "This changes everything." Donald Rumsfeld, the American Secretary of Defense, decried the fact that people didn't know how to adjust to this new reality. "Almost every day in meetings," he lamented, "I am confronted by people who come to me with approaches and recommendations and suggestions and requests that reflect a mindset that is exactly the same as before September 11th. They understand that September 11th occurred, but the power of this institution [the Department of Defense] to continue 'what is' is so great that we all need to be reminded and indeed jarred to realize the urgency that exists."[4]

4.   New asymmetries

If the old rules are not working and everything has changed, who makes the new rules and how are they going to come into effect? To answer these questions, we like to start with a framework proposed by Kenneth Waltz in his seminal work, *Man, the State, and War*. He looked at the sources of conflict using three images. The first image was the individual. Wars start because there are evil people in the world. The second image was the state. Wars start because there are aggressive nations that desire what others have and are willing to take it by force. The final image was the international system. Wars start because there is no Hobbesian leviathan to prevent them so that man's natural aggression runs amok. What, you may ask, has changed about that? For one thing, nuclear weapons are a fact of life. Since their first use at the end of the Second World War, there have been no great power wars — a period of over 50 years. We think that is likely to remain the case. That does not mean we believe the world will be a peaceful place. The past 50 years have been some of the bloodiest in history and there is no end of the bloodshed in sight.

Looking at Waltz' three images we see western militaries "frozen" in the nation-state image, while much of the violence has migrated down to the individual image. At the same time, much of the competition and power has migrated up to the system image. As a result, militaries are fixated on rogue states and their weapons of mass destruction programs or on the wistful hope that a new near-peer will rise up to fill the void left by the demise of the Warsaw Pact. That militaries remained transfixed on the nation-state image is not surprising. After all, that is the image where money is legally aggregated to buy the weapons of war and where rules exist for its conduct. In the meantime, we see economics racing ahead of politics, technology dashing ahead of today's rules, potential threats staying one step ahead of realized enemies, and vulnerabilities remaining allusive of robustness. This leaves an enormous governance gap that tried-and-true, "stovepiped" government organizations are incapable of filling.

There has been much talk, at least in the United States, about asymmetrical warfare. Until 11 September, these discussions were more often around how a country like China might use asymmetrical strategies to counter a frontal U.S. military assault than about how America could be attacked asymmetrically at home. The Cassandra's did exist, but they were largely ignored. Today Waltz' framework might be populated a bit differently. The first image would not be national leaders, but Thomas Friedman's super-empowered individuals (SEI), such as Usama bin Laden and those who carry out his wishes. Jumping to the system image, we find transnational networks, such as Al-Qaeda, that can connect directly with super-empowered individuals (bypassing nation-states) to wreak havoc and create chaos. These transnational networks wield sufficient clout that they can trigger systemic stress. Militaries were lucky that, at the beginning of the war on terrorism, the link between the super-empowered individual and the transnational network ran through a nation-state sponsor (Afghanistan), making a conventional response both swift and executable. Afghanistan was relatively easy. Finding individuals, such a bin Laden, proved more difficult and required, at the individual level, both special

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operations and extraordinary human intelligence. Attacking the network at the systemic level was even more challenging, especially since there was no overarching organizing principle to coordinate these disparate activities. Once Afghanistan was under control, selecting the next target was problematic. President Bush went looking for other nation-states (such as Iraq) to attack.

5.   New battle lines

At a conference we participated in at the US Naval War College, one presenter showed a picture montage of Earth taken at night. The striking feature about the photograph was that the places drawing the world's attention, like Afghanistan and North Korea, were mostly dark. They were also the places that, in large measure, were (or had been) fighting the onslaught of globalization. From a western perspective, if a country, group, or individual is fighting against or resisting globalization, that country, group, or individual is likely to be a problem for the west. The obverse of that foreign policy corollary is that if a country, group, or individual is not resisting globalization they should join the solution set. Using that standard, if you look at a Mercator projection of the world, solution set countries lie in a ring along the edges. Potential problem countries largely rest in the middle forming a black hole of trouble for those embracing globalization (see figure 1).
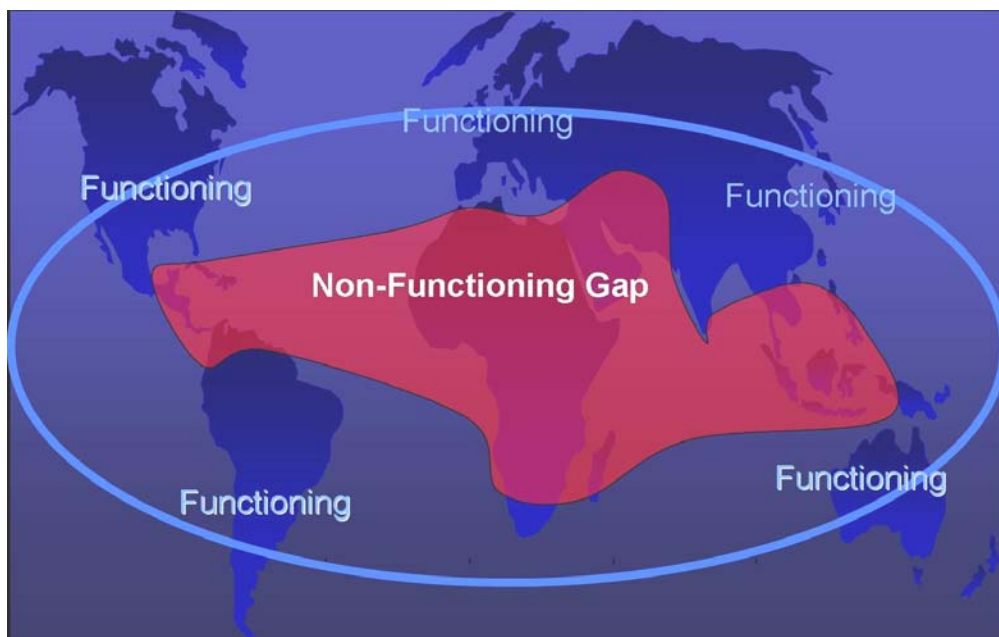

Figure 1. Functioning Core States of Globalization and Non-Functioning Gap States

Another way of looking at how things have changed is to examine the Cold War paradigm and compare it to today's paradigm. You'll see that it is a paradigm flipped on its head. The Cold War world was bipolar and each side saw its foreign policy as a zero sum game. It was capitalism against communism — you were one or the other. If communism gained the upper hand, Americans feared they would lose their free markets and with them their way of life. In order to prevent this, the west firewalled its market system (at the individual level) by adopting a foreign policy aimed at containing communism from spreading (at the system level). Today America believes that globalization (at the system level) will preserve free markets (at the individual level) and thus maintain their way of life. The threat that needs to be isolated is the super-empowered individual. In order to protect against this new threat, America is trying to place a firewall between globalization (at the system level) and those who oppose it by containing them (at the individual level).

Since nuclear weapons made great power conflict (the current organizing principle) unthinkable during the Cold War, America's military strategy was one of deterrence. It worked for many reasons. Among those reasons was the fact that Marxism taught that communism had time on its side. It was historically inevitable, Marx claimed, that the world would turn to communism. As a result, Soviet leaders were unwilling to risk regime control by engaging in a precipitous war that could send them tumbling from power. What about today's super-empowered individual? He has no regime to risk and sees time running out for him to stop the encroachments of globalization into his world. How does deterrence work in this instance? President George W.

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Bush immediately reverted to the Cold War solution by trying to deter nation-states ("you harbor terrorists, we will come"). But how do you deter transnational networks or super-empowered individuals? This is one of the conundrums the globalized world now faces.

6.   Whither globalization?

Although we believe that globalization is a *fait accompli* for most of the world, its end state is still unclear. We juxtapose two pairs of end states about globalization on X-Y axes to create four possible futures. The vertical axis represents those participating in globalization (or not) and how competition between them could lead to conflict. At the top we place "the best against the rest," meaning that supporters of globalization join to contain those who oppose it. At the bottom, we place "the west against the rest," meaning that Asia doesn't cooperate and each region pursues globalization differently. The horizontal axis addresses who is going to lead as the world globalizes. On the left, we place "governance gap continues," meaning that business and technology advance faster than rules controlling them. On the right, we place "new rule sets emerge," meaning that the developed world agrees about how globalization should proceed while protecting local cultures and values (see figure 2).
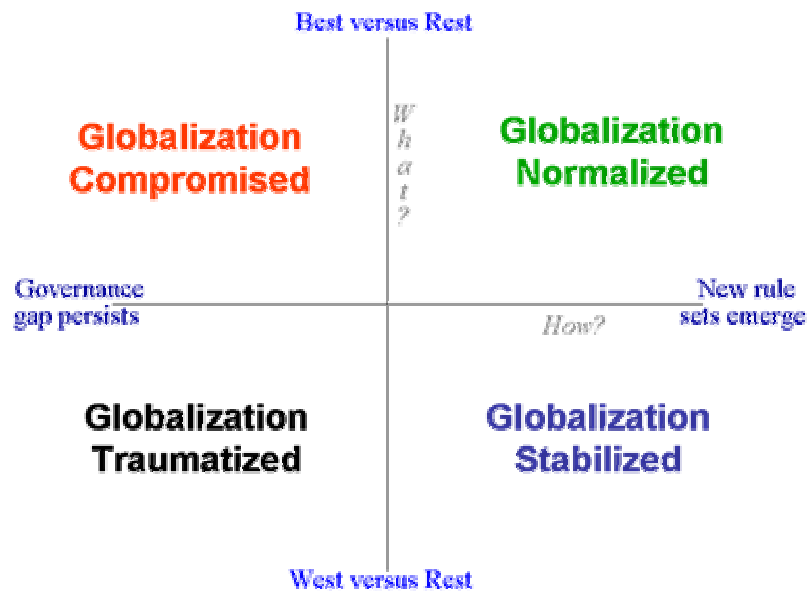

Figure 2. Possible Globalization Futures

If new rules don't emerge and the developed world doesn't get together to challenge those who oppose globalization, the world could remain a very messy place in which to live. We call this future "Globalization Traumatized." If the world cooperates to advance globalization, but fails to adopt a new rule set, economic growth will proceed haltingly and governments will be reactive rather than proactive. We call this future "Globalization Compromised." Those are the darker scenarios we posit. On the brighter side, if developed nations agree on some broad rules directing how globalization proceeds (rules, for example, that would protect workers, the environment, and tax bases), but fail to cooperate when dealing with those opposing globalization, they should expect to be plagued by continual, large-scale protests. We call this future "Globalization Stabilized." The best scenario would see developed countries cooperating to ensure that the world's economy expands smoothly and justly. They agree on rules that protect workers' rights, local cultures, and the environment. They also cooperate to contain disaffected groups and work to bring opponents into the fold. We call this future "Globalization Normalized."

7.   New crises

Having laid out our case for a new organizing principle and new rules, we examine the kinds of conflicts or crises that we can expect in the era of globalization. The great power war paradigm assumed that conflict would be proceeded by a period of tension, during which parties would gather the dogs of war and then unleash them in an intense combat to the finish. We call these vertical scenarios. The classic vertical scenario unfolds with lightning speed. Opponents, allies, strategy and battle plans are all known beforehand. Once the

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war begins, you come as you are. The scenario develops so quickly there is not time for evolution or change. In the great power war scenario, time is static because the world is frozen in place. This scenario fits the America psyche. Americans like things to happen quickly, believe a solution is possible, and, they assume that if they toss enough resources at a problem they will triumph.

Some have argued that the Cold War represented a new type of protracted conflict "that would continue until one side or the other was transformed. Either the United States would cease to be a democracy or the Soviet Union would cease to be a Leninist dictatorship. The ideological divide was too deep and wide for any lasting peace, and while tensions might grow or diminish, these were tactical decisions dictated by geopolitical convenience, not strategic changes. Try as Western statesmen might to bridge this divide with detente or, from the Soviet side, with the ideological sleight of hand called 'peaceful coexistence,' the conflict would not end until one side or the other triumphed."[5] We argue that globalization takes protracted conflict even further and, in fact, will be the norm in the future. It will look much different, however, than it did during the Cold War. There will be no clear beginning or end as it drags slowly on. The definition of who the enemy is will likely change over time. Allies will come and go; moreover, some former "allies" may turn on you. Strategy for fighting the conflict evolves over time to meet these changing circumstances. The conflict is characterized more by strikes than battles. As the conflict lingers, definition of the "problem" will be subject to debate. Unlike great power warfare, the world goes on while the situation seems frozen.

The dilemma with horizontal scenarios in the era of globalization is that more than the security dimension is involved. The more the world becomes connected, the more that every segment of human endeavor is drawn into the fray. Globalization's growing density of network connectivity is spawning a category of conflict or war whose main attributes are the dynamics of disruption vice destruction. As a result, a new way for thinking about how to organize defenses and responses to crises needs to be adopted. We offer system perturbation as one possibility.

8.   A new organizing principle

We noted at the beginning of this paper that a system perturbation is like a giant stone dropped into a calm pond. The initial vertical shock is spectacular, but the resulting horizontal ripples have even wider spread and longer lasting effects. Let's again examine 9/11 and its aftermath. In one morning, a series of relatively simple terrorist acts set in motion a system perturbation that has not only rearranged our sense of national security, but redirected our nation's foreign policy and recast states' relationships with one another — all over the world. Much of this change will be temporary, but some changes will be permanent, generating path-dependencies that nation-states will have to deal with for decades to come. The key point is this: the strategic environment is in flux for some indeterminate period of time. That is the essence of system perturbation — as it unfolds, all bets are off. The old rule set evaporates, the new one is not yet gelled. Both direct and sympathetic ripples spread horizontally from the perturbation. Let's pull on a few of 9/11's threads from six different areas: security, environment, technology, culture, health, and economics.

A. Security.

Security at airports was immediately strengthened and screening procedures tightened, with the inevitable result that permanent additional taxes (or fees) will be levied in order to pay for heightened enforcement measures. People started asking about the security of other forms of transportation, including trains, buses, trucking, and shipping. This led to discussions of immigration and border security. A crackdown on immigration had an immediate effect on some industries, including high tech industries and agriculture that rely heavily on foreign employees. Soon security issues were affecting areas that had never been touched directly by such challenges. For example, Pakistan was critical in the operation against Afghanistan and remained critical for hunting down terrorists that fled into its territory. By cooperating fully, Pakistani leaders expected a quid pro quo, but not on the security front, on the economic front, by having the United States lower its tariffs on Pakistani textile goods — a move that was vigorously opposed by textile manufacturers in America. Thus, within months, the American textile industry took the stage in the war on terrorism. Increased reliance on Pakistani cooperation also affected the calculus in the ongoing tension between India and Pakistan. Additionally, America found itself developing bases in Central Asia, an area the Iranians had hoped to bring into their sphere of influence. As a result, Iran opened its borders to fleeing Al-Qaeda terrorists and covertly supported anti-American forces in Afghanistan. President Bush then felt free to link Iran, Iraq, and North Korea into an "axis of evil."

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B. Environment.

The Bush administration came to office with an energy agenda that was furthered by 9/11. As gas prices increased sharply in the months succeeding 9/11, people started to hint of a "third" oil crisis. Calls for less reliance on Arab oil reemerged. This led to President Bush calling for more domestic oil drilling and production. Environmentalists decried this plan and mobilized into action, moving them closer to the militant anti-globalization camp than they already were. To soften the criticism, hybrid cars were parked on the White House lawn so that President Bush could tout them as cars of the future. Thus, environmentalists joined the fray.

C. Technology.

Events of 9/11 spurred the production of several new technologies, including detection devices that could be used to find explosive, biologic, and radioactive material. It also spurred the transformation of the military and the increased use of unmanned vehicles in combat. Exactly where the technology thread will lead is unclear, but surely technologies that can be both helpful and misused will emerge. Civil libertarians are already protesting technologies that can automatically monitor, scan, and identify individuals, whether they are trying to board a plane or simply walking down the street.

D. Culture.

Analysts who had written off Samuel Huntington's "Clash of Civilizations" arguments began to reexamine them. The longer the strikes continued against Afghanistan and the more vituperative the language used against Iraq, the more uneasy the Arab world grew. Xenophobia increased. Opponents of globalization found themselves in an uncomfortable alliance with bin Laden's supporters; agreeing with some of his aims, but stopping short of supporting all of his tactics. As Muslim frustration and disbelief increased as a result of the tension, a door was opened for some of the deadliest attacks ever carried out against Israel. Martyrdom became a cause célèbre among young, disaffected Muslims. In the west, this only reinforced a negative stereotype about the Arab world and Islam.

E. Health.

Fellow travelers used the opportunity presented by 9/11 to send anthrax in the mail and raise fears about widespread bioterrorism. One result was an outcry for more ciprofloxacin, but Bayer, a German pharmaceutical company, held the patent on the medication and they couldn't manufacture the required amounts quickly enough. A call was raised in many quarters, both public and private, demanding that US companies ignore the patent and make the drug. Advocates for African AIDS victims had been making the same demand about drugs, including ciprofloxacin, used to fight that deadly malady. When Bayer cut a deal with the United States, it also helped reduce the cost and increase the production of AIDS drugs for use in Africa. Security was now tied directly to suffering populations in the underdeveloped world.

F. Economics.

The immediate effect of 9/11 on the stock market was stunning, but the effect on the travel and leisure industries, were greater. People stopped flying. Hotels emptied. Amusement parks didn't seem quite as amusing. This was not just an American phenomenon, it occurred worldwide, and it came at a time when the world was already slipping into a recession. Unemployment grew. Foreign direct investment dried up. Government surpluses evaporated and deficits returned. Only the stocks of the military industrial complex saw a silver lining. To stimulate the US economy, President Bush returned the government to deficit spending, risking the downstream viability of social security and medicare — issues close to the heart of an aging American population.

As you can see, the tendrils of 9/11 expanded outward in every direction changing lives, creating havoc, and demanding a response. Governments realized that stovepiped approaches to governance were no longer workable and they started to forge networks between previously unconnected departments and even proposed the creation of a new department. We have only begun to see the enormous changes that will be wrought as a result of the events on 11 September. So how does system perturbation theory help us get our arms around all of these problems and allow us to use it as a new organizing principle?

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9.   System perturbation theory

What do we mean when we talk about system perturbation? The following is our working definition:

- An international security order thrown into a state of confusion by a perversely shocking development somewhere in the increasingly interconnected global economy.

- This "vertical" shock generates an outflow of "horizontal" waves whose cascading effects cross sectoral boundaries (which may not dampen but amplify the waves) to the point where nearly all rule sets are disturbed, knocked out of equilibrium, questioned, or intrinsically rearranged.

- This *fluxing* of the system is temporary, but path dependent and chaotic. End states encompass the return of old rules, the rise of entirely new rule sets, and/or the merging of old and new.

- The potential for conflict is maximized when divergent rule sets are forced into collisions.

In the past, as we have noted, great power war has led to changes in the international order. Under economic globalization, which generates an increasingly denser medium for shock wave transmission, great power war becomes less likely the cause and more likely one possible effect of a system perturbation. If true, then system perturbation, not great power war, needs to be the organizing principle governments use to build their strategies and field their resources since it covers a greater number of adverse situations. Under this new arrangement, we ask, "Who makes the rules?" For the US Department of Defense, we developed a decision tree that helped explain why this was such an important question for them (see figure 3).

The higher up the tree you go the greater the degree of transformation required. First we ask if 9/11 represented a new form of crisis (that is, was it "existence proof" for system perturbation theory)? If it was not, then the Department of Defense probably requires only slight modification. If 9/11 does represent a new kind of crisis, then simply modifying a few organizations might be an insufficient transformation. If the kind of crisis one must get involved in has changed, does it mean the rules of the game have changed? Does system perturbation become the new ordering principle for the Department of Defense? If a new ordering principle is not required, then the Department of Defense can adequately respond to the new kind of crisis by adapting planned to or developing systems for new doctrine. It must be willing to give up some of old product lines in order to make room for new ones. If a new ordering principle is required, we wonder who establishes the rules for the game. Is it the new super-empowered individuals? Transnational networks? If not, and states continue to make the rules, the Department of Defense must understand what the new rules are and reposition themselves to succeed under them. This would probably require a major organizational transformation as well as a major technological change. If the newcomers do make the rules, then the Department of Defense may be in the wrong business.

The philosophy behind asymmetrical warfare has always been to do things that render major segments of your opponent's forces useless. What good did America's mighty military do to deter the terrorists who attacked the World Trade Center? What good were the Army's heavy forces in Afghanistan, or the Air Force's bombers before there were nearby bases, or the bulk of the Navy's ships that floated hundreds of miles from a landlocked country? What good are armaments at all against cyber attacks? Or biological attacks? That doesn't make military power irrelevant in every case, but more and more people now realize that military power is not relevant in every case either. The resources required to combat the latter two eventualities are probably not resident in the military at all, nor should they be. Yet having tools that can be used effectively in every circumstance is critical. That is why a new organizing principle is essential — so that the disparate parts that need to coordinate their efforts have a framework for doing so.

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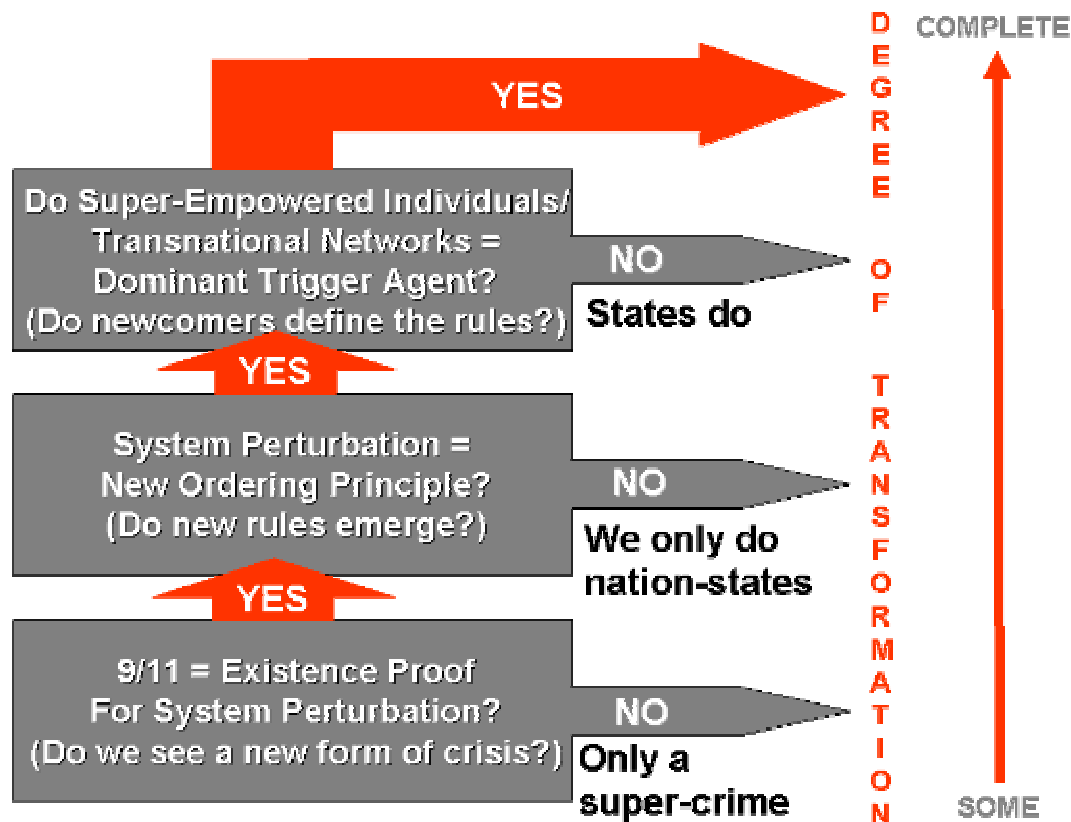
10. What is to be done?

As we think narrowly about US security, we see the following changes. There will be a merging of national and personal security issues. The antiseptic *posse comitas* approach of the past will find the lines between military action and law enforcement being blurred. Private security agencies will likely come under closer scrutiny and heavier regulation — but that sector of society will inevitably grow. Police forces will become paramilitary. American defense policy, which has supported a US foreign policy that prefers fighting "over there," will have to balance "home" and "away" responsibilities even as the defense dollar is squeezed by requirements of an aging population and a cry for more homeland security provided by non-defense agencies.

On the battlefield, nations cooperating to contain super-empowered individuals and transnational networks will find conflict defined increasingly by a values-based response to globalization; hence, the rise of values-based targeting. The threats will primarily be non-state, non-nodal, asymmetric and without restrictions and both sides will wage wars of "perversity." Doing things that reinforce stereotypes and undermine sustainable peace — often causing conflicts to be needlessly protracted by misidentifying the real threats. Militaries will have to transform dramatically, in terms of equipment, concepts of operation, and strategy. The old industrial age model will not work because battlefield density no longer matters. Intelligence will become the most critical resource a military can have. Massing of weapons will yield to directed energy weapons and the military will have to answer all the ethical questions that will arise from their use. Armed reconnaissance units will be the norm as stealth helps define lethality. Shooters will be directly coupled to sensors in a new way. Some battlefields may be completely autonomous and the protection of innocents will raise difficult challenges. Games of hide and seek will replace classic battlefield engagements. Prosecution of some conflicts will be equal parts military action, economic sanction, and law enforcement. Turf battles over who is in charge will undoubtedly rage.

If system perturbation theory has any relevance beyond being an ethereal model of a complex world, then we need to identify who or what the trigger agents are that can "drop the big rocks in the pond," what media they will use, how the shockwaves will be transmitted, what connections exist between the initial shock and the horizontal scenarios, what barriers can be erected to stop the spread of adverse effects, and what the consequences are of both the threat and the cure. We need to understand what capabilities are needed for both

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system perturbations and great power war, and which are distinct to system perturbation. Some of the tools we may need may not yet exist. We suspect that research and development in this area will be critical. We need to continue to identify essential rule sets and understand who is making particular rules along with who is following them and who is not. Governments, especially the US Government, needs to forge new links across departments and agencies and possibly needs a reorganization of major portions of the bureaucracy. Because system perturbation implies that the international system is affected, some functions are probably beyond the ken of national governments and transnational solutions will have to be worked out. New links with business must be established, because globalization is primarily an economic phenomenon. The dilemma for governments is that some deterrence and consequence management resources may be beyond their political reach and rest with actors tied to no nation-state. As the theory is explored and refined, we may find new venues and new alliances that need to be established in addition to current ones such as the United Nations and Interpol.

Right now we are good only at tracing the dynamics of a system perturbation after they happen, much like a detective recreating a crime scene during an investigation. What we need to understand better is who or what are the agents that can trigger system perturbations. What devices can they use? How fast will the effects of the perturbation spread as globalization creates a denser medium through which such effects can flow? What forms of transmission will these effects assume? Are there naturally occurring breakers within the globalization system? We need to understand the difference between the paths of least resistance (in effect, the usual suspects for transmission) and the paths of greatest resistance (what is most fit in this landscape to resist shockwaves). Where we find naturally occurring breaks, we need to identify, bolster, and exploit them.

This nascent theory currently raises more questions than it answers. But we believe it will help governments think more broadly about national security by forcing them to forge new connections between politics, diplomacy, economics, culture, and security. Done correctly, international relationships will be strengthened and possibilities of great power wars reduced. The venues required to counter super-empowered individuals and transnational networks will make international relations more transparent, thus enhancing trust.

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[1] Garraty and Gay, 1972, 992.

[2] Simma, 1995, 810. Since 1971 and the beginning of free floating rates of exchange, the Fund "ensures that floating is orderly and that the international transfer of payments is as free as possible, and it provides the money used for balancing deficits in the balance of payments. This has caused the Fund to be one of the most important actors in the management of the international debt crisis." (ibid.)

[3] Ibid., 811. "Today it focuses on financing development projects, especially in the field of infrastructure." (ibid.) The World Bank has two affiliate organizations, The International Finance Corporation (IFC) and the International Development Association (IDA).

[4] Remarks during a 31 January 2002 press conference.

[5] Strausz-Hupe, 2002.

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